

March 13, 2002

Stephanie Harlan
Chair SAC
MBNMS
299 Foam Street
Monterey, CA 93940

RE: Consensus regarding PWC management

Dear Ms. Harlan:

As you are well aware, the National Oceanic and Atmospheric Administration (NOAA) is drafting a joint management plan (JMP) for the three northern California marine sanctuaries. During this process, the Department of Commerce (DOC) is requesting input from the sanctuaries' advisory committees (SAC). Bluewater Network understands that the DOC is also asking the SACs to come to consensus on many contentious resource issues.

Bluewater Network applauds this effort and provides the following information to help guide the SAC investigation of personal watercraft (PWC) use. In particular, please find information on PWC impacts to the environment and wildlife, as well as text on the failures of so-called "cleaner and quieter" technology. Also included is discussion on the growing consensus among government agencies on how to manage PWC impacts.

PWC damage resources and wildlife

PWC are high-speed thrill-craft commonly used for no purpose other than to provide the operator with a high-impact thrill-ride. Unfortunately, these thrills come at an extraordinarily high price in the form of degraded air and water quality, threatened public safety, endangered wildlife, shattered natural quiet and diminished visitor enjoyment. For more on these impacts, please see Bluewater Network's comments on the National Park Service's PWC regulations.

Numerous studies and reports have uncovered this lasting damage. In particular, we wish to draw attention to the impact PWC have on water quality, natural soundscapes/visitor enjoyment, public safety and wildlife.



- *Water Quality Impairment*

Nearly all PWC utilize conventional two-stroke engines, which dump between 25 and 30 percent of their gas and oil mixture unburned into the environment. The combustion process also produces several toxic compounds including polycyclic aromatic hydrocarbons (PAH), carbon monoxide (CO) and MTBE. In the report *Water Quality Concerns related to Personal Watercraft Usage*, the National Park Service admits that many of these toxic compounds are routinely found in lakes and reservoirs with PWC use, sometimes at levels which threaten both human and ecological health.

- *PWC destroy Natural Soundscapes/Visitor Enjoyment*

Please find a copy of the report: *Drowning in Noise, Noise Costs of PWC in America*. *Drowning in Noise* finds that PWC will impose an estimated \$900 million in noise annoyance costs on beachgoers this year as well as hundreds of millions of dollars of additional costs to water recreationists and shoreline property owners. The report also documents that minimum-distance rules are only modestly effective, while supposedly quieter new models won't put much of a dent in the noise burden. The only way to slash the noise costs of PWC, the authors find, is to ban them from as many waters as possible.

- *PWC threaten public safety*

Nationally, PWC are disproportionately involved in boating accidents. For example, United States Coast Guard (USCG) statistics show that PWC represent roughly 10 percent of all motorboats, yet they are involved in more than 30 percent of all accidents. Even more shocking, 79 percent of the PWC involved in accidents struck a swimmer, collided with a fixed or floating object, or collided with another vessel.

Moreover, a new report by Bluewater Network found that roughly 24 percent of the PWC manufactured during the last ten years have been recalled due to production and/or design problems that could lead to fires and/or explosions. (Please see enclosed report: *Personal Watercraft Production/Design Problems: High Potential for Fires and Explosions*.)

According to the USCG's most recent safety data (1995 through 1999), both the number of fires and the injuries associated with those fires have increased more than 300 percent since 1995. Injuries associated with these fires have increased every year. Moreover, the safety data reveals that in more than two-thirds of all fire/explosion incidents, equipment failure and/or ignition of leaking fuel was the cause of the fire. By comparison, PWC riders' inexperience or reckless operation was responsible for less than seven percent of the fires. Bluewater Network's Freedom of

Information Act request also revealed that the production and design problems in tens of thousands of machines have not been corrected.

- *PWC disproportionately impact wildlife*

Wildlife biologists throughout North America have testified on the existing and potential impacts of PWC use. In California, marine mammal experts have voiced their concern that PWC activity near seals, sea lions, and elephant seals disturbs normal rest and social interaction, and causes stampedes into the water that can separate seal pups from their adult mothers. According to Judy McIntyre, researcher and director of the North American Loon Fund, PWC are the greatest current threat to breeding loon populations. Joanna Burger, author of a Rutgers University PWC study, observed PWCs skimming the edge of islands, and running over Common Tern nests containing eggs or chicks. Burger's study confirms that waterfowl respond "significantly more" to PWCs as compared to conventional motorboats. Officials at the Washington State Department of Fish and Wildlife's Ecosystem Management Program have gone on record to report that they are becoming "increasingly concerned with the effect of motorized personal watercraft... particularly jet skis, on both nesting birds and spawning salmon." And, the state of Hawaii classified PWC as "thrill craft," imposing strict areas of use for the vehicles in order to protect migrating humpback whales.

Many researchers are finding that PWC cause lasting impacts to fish and wildlife. Two-stroke engines, the type that drive most PWC on the water today, have been shown to produce pollutants that cause significant damage to aquatic plants and fish. In addition, wildlife experts have testified that PWC have a high potential to create noise that is perceived as more annoying to humans and wildlife than the sound generated by other sources such as conventional motorboats (Please see enclosed studies and reports for more on PWC impacts to wildlife.)

Researchers have also found that boat traffic alters the behavior of marine mammals such as the bottlenose dolphin. Along with conventional boats, the researchers investigated the impacts PWC have on dolphins. Scientists found that PWC, regardless of approach (fast or slow) elicited a greater response and evoked greater changes in behavior. It is believed that this is due to the unpredictable approach of PWC, as well as the fact that the machines are not acoustically detectable to marine mammals at the same distance as other watercraft. A lack of predictability translates into greater disturbance and potential danger. The researchers also found that the water depth at which a disturbance takes place is significant. Disturbances in shallow water produced a higher frequency of direction and inter-animal distance changes than did disturbance in deeper waters. This is particularly troubling considering PWC, unlike conventional boats, can access very shallow waters that historically have been used by dolphins as a sanctuary from boat traffic. The scientists warn that if these shallow waters are no longer safe havens for dolphins, "then a dolphins

ability to sustain itself, avoid boat traffic, or a mother's ability to safely rear her calf could be comprised."

New Technologies will not solve all problems

Recently, there has been much news concerning so-called "new" technology PWC. Many PWC supporters claim that advancements in engine design, such as direct injection, will solve all environmental impacts related to PWC operation. Unfortunately, this is not the case, and researchers are finding that these new technologies still present significant environmental hazards.

Enclosed please find the California Air Resources Board (CARB) report *Outboard Engine and Personal Watercraft Emissions to Air and Water: A Laboratory Study*. The purpose of this study was to evaluate emissions from marine engines and personal watercraft operated under controlled test conditions. The primary goal was to compare emission levels across technologies, with particular emphasis on two-stroke vs. four-stroke engines and conventional vs. advanced fuel-management systems.

- **Air Pollution**

For all measured air pollutants, two-stroke personal watercraft (PWC) and outboards were generally and substantially higher than comparable four-stroke engines. In the case of hydrocarbons (THC), two-stroke motors were far more polluting than comparable four-stroke motors.

- **Water Pollution**

Similar to air emissions, pollutant concentrations in the water column of two-stroke and DI engines were consistently higher than those of comparable four-stroke engines. This was true for many pollutants including MTBE, BTEX, benzene and acetaldehyde. Moreover, both the carbureted and DI two-strokes were found to emit polycyclic aromatic hydrocarbons (PAH). This is particularly troubling because PAH - even at minute levels of parts per trillion - are toxic to aquatic plants and fish. The research also found that concentrations of many of these pollutants remained substantially elevated in the test tank one full day after testing.

- **Direct-Injected Two-strokes and Four-stroke PWC Will Not Solve All Problems**

CARB research also found that although direct-injected (DI) two-stroke engines were cleaner than carbureted two-strokes, on average they were dirtier than four-stroke engines. For example, DI engines emit approximately seven times more

total hydrocarbons (THC) than do four-stroke engines. THC is a key component in the formation of smog. In the case of formaldehyde, a possible human carcinogen, DI engines emitted more than both the carbureted two-strokes and four-stroke engines. While four-strokes were substantially better in terms of discharging less of some of the most important pollutants, they did not solve all problems. In the case of nitrogen oxides (NOx) and carbon monoxide (CO), the four-stroke engine emitted more than the DI engines.

Neither the DI nor the four-stroke PWC will do anything to address the impacts of the more than 1.1 million thrillcraft already operating on American waters. In addition, with the recent downturn in PWC sales, it will take longer for newer model PWC with the advanced technology to replace older PWC. In fact, at current sales rates, even if every new PWC sold were equipped with the new technology (which is clearly not the case) it would take nearly 12 years to replace all the dirty two-strokes PWC. Finally, it should be remembered that these new technologies are unlikely to improve PWC's safety record or decrease their impact upon wildlife.

Consensus: PWC Prohibitions

Across the globe, government agencies are concluding that a PWC prohibition is the best way to protect aquatic environments and wildlife, maintain appropriate access, and minimize enforcement costs.

For example, the National Park Service has prohibited PWC from all National Parks, including Olympic in Washington and Kenai Fjords in Alaska. At the Florida Keys National Marine Sanctuary, the SAC believes a ban is the best way to protect resources and the local economy. Local governments such as San Juan County in Washington have prohibited PWC operation on all county waters. Foreign governments are also taking action. The Sydney Harbor authority recently banned PWC on the waterway, while Norway prohibited PWC throughout the country.

These bans have broad public support. At parks such as Indiana Dunes National Lakeshore, nearly 99% of the 2700 public comments supported a ban. At other parks, such as the Missouri National Recreation River public support for jetski bans has been just as overwhelming. Moreover, a recent Zogby poll found that more than 60% of the public supports the Park Service's efforts (see enclosed NPS reports and Zogby poll).

Conclusion

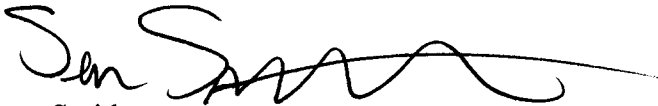
Personal watercraft are known to cause significant damage to air and water quality, visitor enjoyment, public health and safety, natural quiet, and wildlife. A growing number of government agencies are concluding that the best management option is to ban the craft.

We encourage the Monterey Bay SAC to follow the lead of these other agencies and support a ban of PWC throughout the all three northern California Marine sanctuaries.

If you have questions, or are in need of additional information please contact me at (415) 788-3666, ext. 149.

Thank you for you consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sean Smith', with a long, sweeping horizontal line extending to the right.

Sean Smith
Public Lands Director